

RESPONSE AND REQUEST FOR RECONSIDERATION

Claims 1 and 3-22 have been rejected under 35 U.S.C. 103(a) as being unpatentable over McIntyre et al (U.S. Patent Number 6,660,793) (hereinafter referred to as "McIntyre"). Applicants respectfully traverse this rejection.

Applicants' claimed invention relates to a method for providing a resinous coating material on glass exhibiting improved adhesion comprising supplying to said glass a coating composition comprising (i) a reactive sulfonic acid derived compound and (ii) a resinous coating material, wherein the reactive sulfonic acid derived compound contains an olefinic double bond capable of reaction.

Examiner maintains that McIntyre teaches an aqueous coating composition comprising aqueous carrier medium, pigment particles and acrylic resin mixture, wherein the acrylic resin mixture contains a segment comprising 2-acrylamido-2-propane sulfonic acid (AMPS). The Examiner also maintains that McIntyre differs from the present invention, in that McIntyre does not expressly teach using AMPS as a separate component. The Examiner then concludes that while McIntyre does not disclose a direct teaching of using AMPS as a separate component, however, one of ordinary skill in the art, based on the teachings of McIntyre as a whole, would know that residual AMPS would reside in the aqueous coating composition.

It is respectfully submitted that the Examiners reliance on the teaching found in McIntyre is improper.

McIntyre discloses aqueous coating composition comprising: (a) an aqueous carrier medium; (b) transparent iron oxide pigment; (c) a mixture of acrylic copolymer dispersant consisting essentially of (i) hydrophilic stabilizing segment and acids groups in a hydrophobic pigment adsorbing segment, (ii) hydrophilic stabilizing segment and phosphate groups in a hydrophobic pigment adsorbing segment, and (iii) optionally hydrophilic stabilizing segment and alkyl amino groups in a hydrophobic pigment adsorbing segment; (d) a film forming polymeric binder; and (e) crosslinking agent. (see column 2 at lines 30-55). Additionally, McIntyre teaches a method of improving the transparency of aqueous coating compositions containing transparent iron oxide pigment (see column 2 at lines 17-22).

In contrast to the teaching of McIntyre, Applicant's present invention relates to a method of supplying to glass a coating composition comprising a reactive sulfonic acid derived compound and a resinous coating material. The Applicant's present invention promotes adhesion of the adhesives (e.g. the resins) to glass. McIntyre, on the other hand, is directed to a method of using an acrylic copolymer dispersant, in combination with a transparent iron oxide dispersant to improve the transparency of aqueous coating

compositions containing transparent iron oxide pigments (see column 2 at lines 17-22), wherein the acrylic copolymer dispersant consist essentially of a hydrophilic stabilizing segment monomer and a acid, phosphate or amino group monomer. The composition and requirement of the Applicant's present invention, that is, adhesion promoters for glass-containing systems are completely different than those of McIntyre, that is, aqueous coating compositions having improved transparency. McIntyre is directed to non-analogous art to the Applicant's present invention. McIntyre does not teach, suggest or show any motivation to use the reactive sulfonic acid derived compound and the resinous coating material of the Applicant's present invention to promote or improve the adhesion of binders to glass.

Additionally, in McIntyre, the monomers containing the acid functionality are polymerized with a hydrophobic monomer to produce the acrylic copolymer dispersant. The function of the acrylic copolymer dispersants in McIntyre is to help improve the transparency of aqueous coating compositions containing transparent iron oxide pigments. In contrast, the reactive sulfonic acid derived compound of the Applicant's present invention (e.g., the AMPS monomer) is used exclusively by itself, that is, it is not polymerized with another type of monomer to form a copolymer. The AMPS monomer of the Applicant's present invention function is to help promote adhesion of the binder (e.g., the resin) to the glass. There is no teaching, suggestion or motivation in McIntyre to use the reactive sulfonic acid derived compound of the Applicant's present invention (e.g., the AMPS monomer) exclusive of the hydrophobic monomer to promote adhesion. Thus, from the teachings of McIntyre it would be unobvious to a person of ordinary skill in the art to use the reactive sulfonic acid derived compound without the hydrophobic monomer to improve the adhesion of binders to glass.

The Examiner further maintains that person of ordinary skill in the art practicing the teachings of McIntyre would know that a residual amount of AMPS would reside in the aqueous coating composition because the acrylic resin composition is prepared by anionic polymerization. The Examiner maintains that AMPS is less reactive in anionic polymerization than acrylate monomers, thus some unreacted AMPS monomer would remain.

It is respectfully submitted that the Examiners reliance on the teaching found in McIntyre relative to anionic polymerization is improper.

The polymerization of described in McIntyre (see Example 1 column 9 lines 22-35) is not a classical anionic polymerization. This polymerization is a more accurately called a group transfer initiator system and is characterized as a "living" polymerization. In living polymerizations the propagating species of the polymerization continues to be active and continues to grow until all of the monomer is consumed. Thus, from

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the teachings of McIntyre, a person of ordinary skill in the art, would expect that this polymerization to give copolymer containing AMPS units and having no unreacted monomer, that is, no residual AMPS would be present.

If the examples in McIntyre were a classical anionic polymerization, it would use such initiators as butyl lithium or sodium. It would be necessary to use enough initiator to completely neutralize the acids in the system in order to have the strong base present to promote a polymerization. And as such, the acidic monomer would be in the form of its neutral salt not the acid (i.e. no AMPS acids would be present). Thus, from the teachings of McIntyre it would be unobvious to a person of ordinary skill in the art to use the AMPS as a single component.

For the foregoing reasons it is submitted that the present claims are in condition for allowance. The foregoing remarks are believed to be a full and complete response to the outstanding office action. Therefore an early and favorable reconsideration is respectfully requested. If the Examiner believes that only minor issues remain to be resolved, a telephone call to the Undersigned is suggested.

Any required fees or any deficiency or overpayment in fees should be charged or credited to deposit account 50-1501 (Noveon, Inc.).

Respectfully submitted,
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